RV Brooks McCall/Ocean Veritas Data Summary
Cruise 6/17/2010

Review Date 6/18/10

Summary:

This sampling report presents data collected from the RV Brooks McCall for the period of 6/17/2010. The RV Brooks McCall will alternate with the Ocean Veritas in the collection of subsurface data associated with the Deepwater Horizon oil spill. The sampling strategy for the day was to confirm the absence of the deepwater plume south, west and east of the wellhead before trying to locate it north of the wellhead. Stations occupied during this reporting period include BM88, BM89 and BM90. A total of 111 water samples (including duplicates) were collected at 3 locations.

The CTD array data for Station BM90 produced a very weak fluorescence signal.

Station BM88 had no significant surface oil present, BM89 had a light surface oil sheen and BM90 had relatively heavy surface oiling. Rototox tests were started 6/17/2010 for samples BM87 through BM90. BM87 is the final sample from Cruise 7 to be tested; the delay was due to failed hatching of rotifers. Results of these tests will be reported on 6/18/2010.

At the time of this summary report, no dispersant data for 6/17/2010 had been received.

Stations BM88 through BM90 were sampled for: TPH, VOA, CTD fluorometry, Rototox and dissolved oxygen. Samples were collected from the surface to approximately 1560 meters below water surface.

LISST and CTD Fluorometer:

Water samples were collected at 3 Stations. Station BM88 was located 1 km south of the wellhead and did not detect a fluorescence signal. Station BM89 was located 2 km west of the wellhead did not detect a fluorescence signal. Station BM90 was located 2 km east of the wellhead and detected very weak fluorescence signals at 1060 m and 1110 m, indicating that this sampling location is located on the edge of the subsurface plume.

All 3 stations sampled showed elevated small particle concentrations in the surface water layer (0.5 m). Station BM88 also showed a slight elevation at depths of 2 m and 140 m. Station BM90 showed a weak sign of a subsurface plume at 1064 m. An anomalously high small particle concentration was obtained for sample BM900105-01, so an additional replicate was analyzed (three replicates total were analyzed for this sample.)

6007209

Stations BM88 and BM89 showed fluorescence intensity ratios that were lowest on the surface and increased slightly towards the bottom. Station BM90 showed approximately equal fluorescence intensity ratios throughout the water column. Fluorescence intensity ratios for the three stations sampled were moderately high compared to those observed on 6/13/2010.

The RV Brooks McCall reported a total of fifty-two (52) LISST samples analyzed from Stations BM88 through BM90 on 6/17/2010.

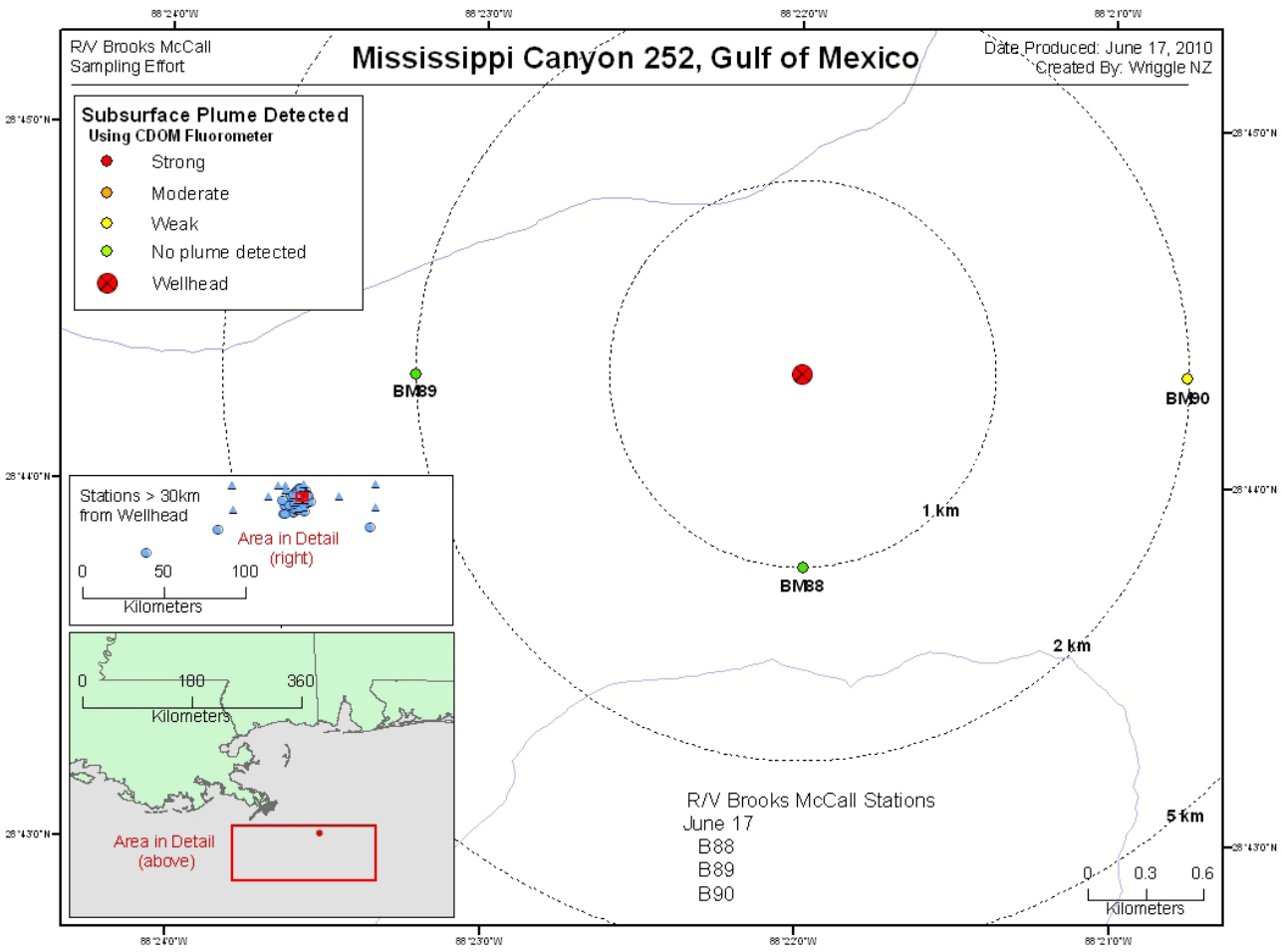
Dissolved Oxygen:
The CTD instrument includes a dissolved oxygen probe. Stations BM88 and BM89 showed a decrease in dissolved oxygen that was not associated with a fluorescence signal. Station BM90 had two fluorescence spikes – one at 1060 m and one at 1110 m. Both spikes were associated with a drop in dissolved oxygen.

Toxicity Testing (Rototox Assay) (data collected from 6/17)
Rototox tests were started today (6/17/2010) for samples BM87 through BM90. BM87 is the final sample from Cruise 7 to be tested; the delay was due to failed hatching of rotifers. Results of these tests will be reported on 6/18/2010.

Chemical Analyses (TPH and VOCs) (data collected from 6/17)
Fifty-one (51) samples were collected for TPH analysis and fifty-one (51) samples (including duplicates) were collected for VOC analysis. No data were provided for review at this time due to laboratory lag time.

Problems/operational issues:
During the upcast at Station BM88, SIMOPS requested the Brooks McCall to move from the area and sample no closer than 2 km from the Discover Enterprise. The Brooks McCall modified their sampling program accordingly and moved further away from the wellhead.

Cast BM90 was originally planned for 2 km north of Station BM89, but it was abandoned while approaching the site through heavy surface oiling when a single spiked VOC reading was recorded. VOC readings on deck were consistently below 5 ppm. When the VOC meter was held 0.5 m off the water surface, the VOC alarm sounded. The vessel moved from the site and staff were kept inside while further VOC readings were taken. On deck, the readings fluctuated predominantly between 0 and 2 ppm. The Brooks McCall was repositioned 2 km due east of the wellhead for cast BM90. VOC readings on deck at this location were 0 ppm, despite heavy surface oiling.


R/V Brooks McCall
Sampling Effort
Mississippi Canyon 252, Gulf of Mexico
Date Produced: June 17, 2010
Created By: Wriggle NZ
Subsurface Plume Detected
Using CDOM Fluorometer
Strong
Moderate
Weak
No plume detected
Wellhead
BM89
BM90
BM88
1 km
2 km
5 km
Stations > 30km
from Wellhead
Area in Detail
(right)
0
50
100
Kilometers
0
180
360
Kilometers
Area in Detail
(above)
R/V Brooks McCall Stations
June 17
B88
B89
B90
0
0.3
0.6
Kilometers
88°24'0"W
88°23'0"W
88°22'0"W
88°21'0"W
28°45'0"N
28°44'0"N
28°43'0"N